

**MICHIGAN ENVIRONMENTAL SCIENCE BOARD  
LEAD PANEL  
MEETING SUMMARY  
TUESDAY OCTOBER 4, 1994  
NATURAL SCIENCE BUILDING, ENTOMOLOGY CONFERENCE ROOM  
MICHIGAN STATE UNIVERSITY, EAST LANSING, MICHIGAN**

**PANEL MEMBERS PRESENT**

Dr. Jonathan Bulkley, Chair  
Dr. George Wolff  
Dr. David Long  
Mr. Keith Harrison, MESB Executive Director

**PANEL MEMBERS ABSENT**

Dr. Raymond Demers

**DMB/EAD SUPPORT STAFF PRESENT**

Mr. Jesse Harrold, Environmental Officer

**I CALL TO ORDER**

Dr. Jonathan Bulkley, Chair, called the meeting of the Michigan Environmental Science Board (MESB) Lead Panel to order at 1:15 p.m.

**II EXECUTIVE DIRECTOR'S REPORT**

Mr. Keith Harrison stated that the MESB had received blood-lead reporting forms used in the states of New York, Massachusetts, New Jersey, Ohio and California which had been requested at the last meeting. Copies of the forms will be provided to the Michigan Department of Public Health (MDPH).

**III PRESENTATIONS**

**Dennis Livingston**, Community Resources, discussed the efficacy of various remediation techniques for lead. A summary of his presentation may be found in Attachment 1.

Dr. Bulkley questioned how the process of blood lead monitoring for workers was handled. Mr. Livingston explained that workers are tested when they begin their employment and at annual intervals thereafter. Also, when completing the dirtiest work, a contractor will have an industrial hygienist present. If the air monitoring records a level near the action level, preventative measures are taken. If the level is far below the action level, no measures are taken unless the work radically changes.

Mr. Harrison asked about lead in the soil around lead-abated houses and poorly maintained lead-painted houses. Mr. Livingston responded that it is always a good idea to have some type of ground cover, either woodchips or grass will do, but the real problem is probably wooden porches. They are places where kids play, and with the characteristics of wood accompanied with the weather, the paint is more likely to chip and flake.

Dr. Long asked if Mr. Livingston was suggesting that the major pathway for lead exposure was dust rather than paint chips. Mr. Livingston stated that although there are children who eat paint chips, the more likely route of exposure stems from kids placing their hands or other things in their mouths, thus ingesting fine particles of dust. If paint is simply on the walls, it should not pose a problem if it is properly maintained. There must be severe damage to the painted surfaces to allow paint chips to flake and break down into dust particles. It is important to differentiate between the presence of lead paint from the presence of a lead paint hazard.

Mr. John Mitchell, Mitchell Environmental, asked how the landlord/tenant situation can be maintained. Mr. Livingston indicated that it must be a cooperative arrangement. First, property owners should be encouraged to follow codes through the threat of law suits and housing code violations. Second subsidies or free inspections can be given to lessen the burden. Third, tenants must be educated on the proper routes of action when there is a problem with maintenance, especially one as dangerous as a lead hazard. Fourth, to avoid a bureaucratic nightmare, community organizations should have in-house specialists, to aid in the maintenance of these properties. And finally, it would be optimal if the regulatory agency responsible could maintain a computer database of home-site visits or inspections.

Mr. Glen Brown, Wayne County Health Department, asked what the correlation was from a microgram per square foot level of lead-paint dust and human exposure. Mr. Livingston stated that no one really knows, but that there are clearance levels for the floor, stool and window trough. Children are safe when the dust levels are kept below the clearance levels but they are poisoned when the levels are exceptionally high. Although a health-based relationship to lead-laden dust accumulation does not exist, it is known that most of the houses with very high levels are a problem and must be addressed to correct the problem. The marginal science is something that must be dealt with in the future, but for now, there are enough really bad cases to deal with.

Mr. Brown asked if it was advisable to use volunteers in remediation work. Mr. Livingston stated that he would cautiously encourage it, especially for groups like Habitat for Humanity and Christmas in April. It is unrealistic to expect that everyone will have access to a contractor, either logistically or financially. There are many maintenance actions homeowners can take on their own. As for groups like Habitat for Humanity, a team on their crew could be specially trained to handle lead abatement problems.

Dr. Long asked how long it would take a healthy child entering a house with elevated dust levels to get exposed. Mr. Livingston indicated that there are two types of exposure that may take place. The first is more of an incidence exposure, which might occur during renovation of a home. In this case, health effects might be seen within two days, but fortunately, if the exposure is caught early, the problem is not too severe. The lead level can be brought down before it has a chance of entering the sinuses or bone. The real problem lies with long-term exposure. This can begin so early, that effects or symptoms of the poisoning might be attributed to the child's personality. In this case, the lead has time to accumulate in the bones and even after chelation, the body is recontaminated from the bone, increasing the child's susceptibility.

Mr. Mitchell asked about the new federal Occupational and Safety Health Administration (OSHA) standards for demolition, painting and construction. Mr. Livingston stated that the OSHA guidelines work well in industrial settings, but the kind of work done by Community Resources does not necessitate them. Air monitoring procedures for example, were carried over into the lead guidelines from the asbestos experience and regulations. It does not make sense to apply similar standards to two vastly different particles. This is not to say that protection is not needed, just that practices should be adapted to the characteristics of lead and lead particles.

Dr. Bulkley asked about encapsulation and enclosure techniques. Mr. Livingston explained that encapsulation is the method of covering lead hazards with a paint or liquid material. It's effectiveness is dependant upon its ability to adhere to the surface. It works well on ceilings and walls, even rails that do not get a lot of abuse. Enclosure techniques are mechanically fastened onto the lead hazard which need to be covered. Often it is advised to enclose lead-painted exterior walls with some type of siding, to stop it's contamination of the soil. This procedure if not done correctly can create a dew point inside the wall which can cause the inside paint to fail due to the moisture created, thus transferring the problem inside.

Dr. Bulkley asked about the validity of the statistic of one in ten of children with blood-lead levels greater than ten  $\mu$ g/dL. Mr. Livingston stated that one in ten statistic is the average exposure rate among children, but that it is not an absolute. The statistic is highly dependent on income, because of the capacity to do maintenance work.

Mr. Brown asked the panel to investigate the aquatic medium as a source of lead for human consumption and passage to the fetus; specifically, he asked if there was a potential for bio-accumulation of lead through trophic levels and if this potential represented a source for human accumulation and for the passage to the fetus. Dr. Long responded that the issue was looked into by the Panel earlier, but the literature would be reviewed again at Mr. Brown's request. It was the Panel's opinion however, that the most significant threats were from poorly maintained lead-based paint and lead-laden dust.

#### **IV PUBLIC COMMENT AND QUESTIONS**

After a discussion by Mr. Harrison about the procedures for writing of the Panel's report, Dr. Bulkley discussed his particular portion of the report. His section will set the stage,

by describing the extent of lead exposure and the health and social impacts of exposure. However, in trying to describe the populations at risk, he found serious deficiencies in the available Michigan data. The data that have been made available suggest that lead exposure may be systematically under-reported.

The two groups most at risk are children (0 to 6 years) and adults with unprotected occupational exposures. In the case of occupational exposures, there are currently 64 lead-using companies in Michigan reporting. However, based on an analysis of Michigan industry by Standard Industrial Codes, it would be expected that at least 1,400 companies should be screening their employees periodically and reporting. If all companies that should report were doing so, Michigan could be expected to have between 800 and 1,500 adult workers per year with blood levels greater than 50  $\mu$ g/dl, rather than the 88 the MDPH received reports on in 1993.

In the case of young children, although substantial screening is conducted, there is no central data collection. The MDPH's Center for Disease Control-funded screening program is the most accurate source of data, but it is only a portion of the screening completed. It does not include data on children tested by private physicians and health maintenance organizations. In addition, it only covers Ingham, Kent, Muskegon, and Saginaw Counties. As a result of the problems with OSHA reporting and lack of centralized data collection on children, the Panel is unable to state with any certainty the magnitude of the current lead problem in Michigan, for either children or adults. Additional data are being collected for the city of Detroit and Wayne County.

Dr. Harriet Billingslea, Detroit Health Department, explained that the public health community has been working for legislation requiring complete reporting of blood levels of 10  $\mu$ g/dL and greater.

Dr. Jackie Scott and Mary VandenBosch, MDPH, indicated that they had provided the Panel with the data they thought had been requested, but did not have access to all the data available through the MDPH.

Mr. Livingston commented that the understatement of the problem is exacerbated by compartmentalization of screening and reporting. The same urban population that is affected by elevated blood levels is affected by other environmental hazards. In Philadelphia, for instance, there has been a ten-fold increase in serious respiratory diseases, perhaps due to elevated carbon monoxide levels from weatherization measures and from poorly maintained houses. This population is having multiple negative health effects that are hidden in the data collection process.

## **VI ADJOURNMENT**

The meeting was adjourned at 4:30 p.m.

Keith G. Harrison, M.A., R.S., Cert. Ecol.  
Executive Director  
Michigan Environmental Science Board

## **ATTACHMENT 1. Summary of Mr. Dennis Livingston, Community Resources, Presentation to the MESB Lead Panel.**

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Mr. Livingston stated the majority of the lead paint problems are found in single family units and that only three percent of United States' housing stock is in large U.S. Housing and Urban Development (USHUD) projects. Large multi-family housing units are usually treated by large commercial contractors. His primary interest is in affordable lead poisoning abatement of single family homes, duplexes and small apartment buildings. Complete lead removal in a single family unit is cost prohibitive.

The main objectives of any delivery system are to be safe, effective and within budget. Second, is to involve the small local contractors and to provide work to them on an ongoing basis, year after year. The bust or boom experienced by small contractors should be avoided by providing small contracts on a continuous basis. The only places in the country where small community contractors are given proper instruction on the USHUD rules, are in the cities of Oakland and Berkeley in Alameda County, California.

The main problem for lead poisoning abatement is the federal requirements to obtain federal funding for lead abatement in 97% of U.S. housing. The present rules apply to the lead poisoning abatement in large housing units and are cost prohibitive when applied to small unit housing. Community Resources is involved in writing justifications for variance in these rules so as to liberate funding for small unit abatement efforts. The other interest of Community Resources is to move from a reactive prevention strategy to a general ongoing prevention strategy, a management position, not necessarily a total abatement philosophy.

Community Resources procedure is first to evaluate the lead problem on a community basis and assign a schedule through those findings on a needs basis for abatement. This needs basis would be based on, but not limited to the number of vulnerable children, level of lead dust on surfaces, level of lead paint decay, size of surfaces to be treated, rate of lead dust generation and structural dust retention capabilities. The presence of lead dust shows that the children are being poisoned, blood-lead level tests prove that children have been poisoned.

When something threatens family health, people ask: how bad is it, what causes it and how is it prioritized in my budget. The moving of families to new or different living facilities is far more expensive than treating their present home. The resocialization of the family in a new and unfamiliar community usually presents a number of new problems. The answer is to relocate the family for a day or so, while a maximum effort is being made by the local contractor and volunteers from the community to abate the lead hazard. A method for getting the family out of the house for treatment is to provide movie tickets, meal tickets, zoo passes or something similar. Treatment usually takes about 14 hours. After the abatement is completed, the family receives an educational course on how to maintain their home in a lead-free state. This process is successful because it is affordable, it meets clearance standards and the workers are safe in the

work environment. The real basic need is to establish these community-based lead hazard abatement crews. Also, the sophistication needed to identify a lead toxic home is not great and could be conducted by a reasonably intelligent person with a week of proper training.

Lead paint on dry wood is nothing to be feared and will cleave to that surface indefinitely no matter how thick it is. Lead paint is not a hazard if it is not peeling or dusting off. Moisture is the primary problem that causes paint peeling and the resultant lead dust problem. A well-maintained house does not experience lead poisoned children.

In lead hazard abatement work it was found that lead dust is very heavy and falls to the floor quickly, unlike asbestos fibers which float about. Air sampling at hazard abatement work sites have yielded less than 1  $\mu\text{g}/\text{dL}$ , the response level is 30  $\mu\text{g}/\text{dL}$ . The reason for wearing the NIOSH-proof masks during treatment is to keep the workers lead-dust covered fingers out of their mouths. This brings up the point that a lot of lead dust gets caught in the cracks in the floor regardless of how sophisticated the crew does the abatement work. This floor trapped dust resurfaces with normal household activities. Normal vacuuming with a fine paper dust bag works well on this dust. Another source of post treatment lead dust is from lead-laden used paint stripper which dries out and liberates the dust.

If one room needs an extra effort, that room is sealed off from the rest of the house with its own access to the outside. The worker decontamination is done in an area adjacent to the work area; this is allowable under a special letter issued by the USHUD. The sealed off work area allows the family to function in the remainder of the house as usual. Community Resources and its trainees never use power tools in abatement work because there is no way to control dust they generate and blow about. Misting is also employed to control dust. Any type of equipment use in the work area should be evaluated on its function in lead dust transport.

Each state should establish some legal tool which protects property owners from suit if they perform a prescribed level of lead hazard abatement, because total lead removal is cost prohibitive. It should be a priority that lead hazard abatement certification be established in Michigan this coming year because under USHUD rules, certified contractors can cross state lines and take work away from Michigan citizens. This condition would eliminate the local community contractor from participation in abatement and the access to USHUD monies. Because of the uniqueness of each community and the nature of their habitation, no absolute plan for the entire state should be established, least of all for the nation.

#### **Outline of Dennis Livingston's presentation to the MESB Lead Panel.**

At a mini-conference sponsored by the Detroit Health Department Lead Poisoning Prevention and Control Program on July 13, 1994, barriers to a successful program were discussed. Detroit, like virtually every other municipality in the country, is faced with a clearly defined problem but a lack of affordable prevention solutions. This

presentation will focus on details of some suggested solutions. This outline focuses on residential non HUD housing;

### **POLICY SHIFTS - Present and Future**

- From reaction to prevention - Title X in process
- From lead abatement to lead hazard reduction
- From surface XRF testing to lead hazard screening
- From centralized abatement companies to community based remediation companies
- From lead to a wholistic building maintenance strategy

### **CUTTING THE PROBLEM DOWN TO AN AFFORDABLE SIZE**

- Target - Characteristics of target housing
- Triggers - Finding poison sites before a poisoning
- Triage - Prioritizing resources

### **PROGRAM GOALS FOR TRIAGE HOUSING**

**(This will not work for a percentage of severely distressed housing)**

- Avoid relocation of families
- Keep square foot costs to between \$2 and \$4 per square foot
- Make decisions on the basis of life cycle costing
- Guarantee resident, worker and environmental safety

### **THE MODEL IN PRACTICE**

- The hazard screen and design process
- The crucial outreach education and family support function
- The three day intervention in detail (Without, in most cases, relocation)
- Isolated work area and "adjacent" spaces

### **TURNING LEAD HAZARD REDUCTION INTO LONG TERM HEALTHY HOUSE PROGRAMS**

- "Standards of Care" and integrated maintenance
- "Safe Harbors" - dangers and opportunities

### **BUILDING LOCAL CAPACITY**

- Community outreach and four hour awareness trainings
- Skill training as part of a jobs program
- Contractor support systems - minority contractor development